

CLAIMS

We claim:

1. A virtual management system for a data center, comprising:
 - a management topology presenting devices, log servers, facilities, subscribers and services as objects to an administrative interface; and
 - a configuration manager implementing changes to objects in the topology responsive to configuration input from an administrator via the administrative interface.
2. The virtual management system of claim 1 wherein said administrative interface comprises a graphical user interface.
3. The virtual management system of claim 1 wherein said administrative interface comprises a command line interface.
4. The virtual management system of claim 2 wherein said administrative interface is provided by a host computer coupled to the configuration manager by a network.
5. The virtual management system of claim 4 wherein the network is part of the data center.
6. The virtual management system of claim 4 wherein the network includes a wide area network.

7. The virtual management system of claim 4 wherein the network includes the Internet.

8. The virtual management system of claim 1 wherein the management topology includes a topology hierarchy of parent and children objects.

9. The virtual management system of claim 8 wherein said hierarchy is organized by facilities parent, and each facility object includes children objects of subscribers, log servers, devices and services objects.

10. The virtual management system of claim 8 wherein said hierarchy is organized by subscribers parent objects, and each subscriber object includes services children.

11. The virtual management system of claim 8 wherein said hierarchy is organized by services parent object, and each service object includes children objects of subscribers, facilities and devices.

12. The virtual management system of claim 8 wherein said hierarchy is organized by a devices parent object, and each device object includes children objects of subscribers, services and facilities.

13. The virtual management system of claim 1 wherein the administrative interface is accessible from outside of the data center.

14. The virtual management system of claim 1 wherein the administrative interface is accessible by a subscriber.

15. The virtual management system of claim 14 wherein the subscriber can configure services.

16. The virtual management system of claim 14 wherein said service objects include a subscriber virtual private network.

17. The virtual management system of claim 14 wherein said service objects include a router.

18. The virtual management system of claim 14 wherein said service objects include a subscriber firewall.

19. The virtual management system of claim 14 wherein said service objects include a load balancing application.

20. The virtual management system of claim 14 wherein said service objects include a web cache.

21. The virtual management system of claim 14 wherein said service objects include a secure sockets layer accelerator service.

22. The virtual management system of claim 1 wherein the configuration manager provides real time network services status to administrative interface.

23. The virtual management system of claim 1 wherein the configuration manager comprises a server and an agent in a service device.

24. The virtual management system of claim 23 wherein the server and the agent are coupled via a network.

25. The virtual management system of claim 23 wherein the network is a wide area network.

26. The virtual management system of claim 24 wherein the communicate via HTTP get and post operations.

27. The virtual management system of claim 1 wherein access to each of said objects via said administrative interface is governed by an administrative hierarchy.

28. A system for managing a plurality of networking services provided by devices coupled to a network in a data center, comprising:

a configuration controller coupled to the devices;

a service management interface for the controller enabling device configuration based on a service object;

a subscriber management interface for the controller enabling device configuration based on a subscriber object; and

a device management interface for the controller enabling device configuration based on device object; and

a facility management interface allowing the administrator to configure objects in the system based on a facility object.

29. The system of claim 28 wherein the service management interface presents subscriber objects, facility objects or device objects relative to the service object.

30. The system of claim 28 wherein the subscriber management interface presents services relative to the subscriber object.

31. The system of claim 28 wherein the device management interface presents facilities, services and subscribers relative to the device object.

32. The system of claim 28 wherein the facility management interface presents devices, subscribers, and services relative to the facility object.

33. The system of claim 28 wherein access to management of objects in each interface is governed by an administrative hierarchy.

34. The system of claim 28 wherein the interfaces and the controller are coupled via a wide area network.

35. The system of claim 28 wherein the interfaces are provided in a graphical user interface.

36. The system of claim 35 wherein each said interface is linked to a content service application and a service module coupled to a device agent to administer changes in the device via the device agent.

37. The system of claim 28 wherein each of said interfaces communicates with the configuration controller via the Internet.

a network manager interacting with devices on the network to implement changes provided by the service applications.

45. The interface of claim 38 wherein the network manager comprises a network management server and a device agent.

46. The interface of claim 38 wherein the management server provides said graphical user interface to a user device.

47. The interface of claim 38 object management interface and having a plurality of configuration applications and configurations storage for objects coupled to the network.

48. The interface of claim 38 wherein the graphical user interface is provided in a Web browser.

49. The interface of claim 38 wherein the graphical user interface is coupled to the manager via a Wide area network.

50. A graphical network interface for a data center, comprising:
a plurality of object views, including:

- a facility object view,
- a subscriber object view,
- a device object view, and
- a log server object view,

each said view including a set objects organized by a hierarchy relative to another of said views; and

at least one link to an object in said set of objects, allowing modification of configuration data for the object via the view.

51. The graphical network interface of claim 50 wherein said facility view includes at least a subscriber branch or a device branch or a log server branch.

52. The graphical network interface of claim 50 wherein said subscriber view includes at least a device branch, a log server branch or a facilities branch.

53. The graphical network interface of claim 50 wherein said device view includes at least a facilities view.

54. The graphical network interface of claim 50 wherein said interface is provided in a Web browser.

55. The graphical network interface of claim 50 wherein said interface is provided as machine readable code for an administrative device.

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